supported by the application as originally filed. No new matter has been introduced by way of those amendments.

The Examiner rejected claim 17 under U.S.C. 101 as being non-statutory subject matter. The Applicant has redrafted claim 17 to specify elements for implementing functionality of providing a computer based examination to a user on a client computer.

The Examiner rejected claims 18 to 25 under U.S.C. 112, second paragraph, as being indefinite. The Applicant has amended claims 18 to 23 and 25 to more clearly define the invention. The Applicant has deleted claim 24. New claims 18 to 23 clearly specify code for administering a computer based examination using a cookie including a current state of an examination session of a candidate. New claim 25 clearly specifies a method of providing an examination content adaptively.

It is respectfully submitted that all claims comply with the requirements of U.S.C. 101 and U.S.C. 112, second paragraph.

The Examiner rejected claims 1 to 2 under U.S.C. 102(e) as being anticipated by Sonnenfeld (US Patent No 6,112,049). The Examiner rejected claims 3 to 16 under U.S.C. 103(a) as being unpatentable over Sonnenfeld in view of Bowman-Amuah (US Patent No 6,332,163).

The present invention as defined in claims 1 and 9 provides a computer system and a method of performing Internet based testing and administering Internet based testing. The computer system includes a client computer having a web browser accessed by a candidate and a web server for providing an examination content to the client computer. The web browser automatically communicates with the web server at a predefined interval during the examination session. Based on the communication, the web server records a current state of the examination session of the candidate in a unique file at the predefined interval. The unique file is allocated to the candidate in each examination session and is not allocated to the client computer. The unique file is different from a log file.

The Examiner stated at section 8 of the office communication that Sonnenfeld discloses a computerized testing system implemented on a network and this system includes a web server and database.

Sonnenfeld discloses a computer network for testing. Sonnenfeld's system uses a web-based delivery component. However, Sonnenfeld's system is directed to a system for designing tests, and is not directed to a system for performing internet based testing. Further, Sonnenfeld neither discloses nor suggests a unique file allocated to a candidate (not to a client computer) in each examination session, which records a current state of the examination session of the candidate.

The Examiner stated at section 13 of the office communication that in Sonnenfeld, communication may be accomplished on an allowable timing, sequencing and repetition basis (col. 2, lines 15-19).

Sonnenfeld states, at col. 2, lines 15-19, that "section" has a set of parameters which define "allowable timing". Sonnenfeld states, at col. 6, lines 26 to 67, that the section information includes: the maximum amount of time that a person can work on a section; the minimum amount of time that a person must work on a section; the maximum amount of time to pause (if any) after a section has been given; the minimum amount of time to pause (if any) after a section has been given. Therefore, the allowable timing of Sonnenfeld is different from a predefined interval recited in claims 1 and 9.

The Examiner stated at section 13 of the official communication that Bowman-Amuah teaches the concept of timed backups for the recovery and restoration of information communicated in a networked testing system.

Bowman-Amuah discloses a computer network system for providing communication services. The system includes a client, a server and a network. The system may include a log file. However, Bowman-Amuah neither suggests nor teaches a unique file allocated to a candidate in each examination session, which records a current state of the examination session of the candidate transferred from a web browser to a web server.

Therefore, Sonnenfeld and Bowman-Amuah neither suggest nor teach a method and a computer system for providing Internet based testing and administering Internet based testing, in which a candidate uses a computer with a web browser automatically communicating with a web server, and the web server automatically records, at a predefined interval, a current state of an examination session of the candidate in a unique file allocated to the candidate in the examination session.

Hence, it is respectfully submitted that claims 1 and 9 and their dependent claims are patentable over Sonnenfeld in view of Bowman-Amuah and comply with the requirements of U.S.C. 102(e) and 103(a).

In view of the above amendments and remarks, and having dealt with all of the matters raised by the Examiner, early reconsideration and allowance of the application is respectfully requested.

It is noted that an initialled copy of Applicant's Form PTO-1449, filed along with the application, was not returned with the most recent Office action. An extra copy of that Form PTO-1449 is enclosed herewith, and it is requested that an initialled copy be returned with the next communication.

If any further fees are required by this communication which are not covered by an enclosed check, please charge such fees to our Deposit Account No. 16-0820, Order No. 32973.

Respectfully Submitted,
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Marked up version showing the changes to claims of U.S. Ser. No. 09/667,954

1. (Amended) A computer system for performing Internet based testing comprising:

a central processing site comprising a web server and a database for storing an examination content; and

at least one client computer including a web browser, the web browser communicating ~~in communication~~ with the web server via the Internet for beginning an examination session, ~~and~~ retrieving and displaying the examination content, and responding to the examination content, ~~; and~~,

~~means of automatic communication between the web server and the client computer to save the current state of the examination session at predefined intervals in a unique file.~~

the web browser automatically providing, to the web server at a predefined interval during the examination session, a request regarding to a candidate who is accessing the examination content via the web browser;

the web server automatically recording, in response to the request from the web browser, a current state of the examination session of the candidate at the predefined interval in a unique file, the unique file being allocated to the candidate in each examination session.

3. (Amended) The computer system of claim 2, wherein the current state of the examination session of the candidate is transferred from the client computer to the web server using a cookie ~~the means of communication includes cookies transmitted between the web server and the client computer to save the current state of the~~

~~examination.~~

4. (Amended) The computer system of claim 2, wherein ~~the means of communication includes at the client computer~~ the web browser comprises:

~~means to~~ a circuit for ~~update~~ updating ~~cookies~~ the cookie at the predefined intervals~~,~~ the cookie including the current state of the examination session of the candidate; and

~~means to~~ a circuit for ~~transmit~~ transmitting the updated ~~cookies~~ cookie in a request to the web server.

5. (Amended) The computer system of claim 4, wherein ~~the means of communication includes at the web server~~ the web server comprises:

~~means to~~ a circuit for ~~respond~~ responding to the request transmitted by the client computer; and

~~means to~~ a circuit for ~~store~~ storing the transmitted ~~cookies~~ cookie in the unique file.

6. (Amended) The computer system of claim 3, wherein ~~the means of communication further comprising~~ the web browser comprises:

~~means to~~ a circuit for ~~update~~ updating the ~~cookies~~ cookie during the examination session at the predefined intervals~~;~~ and

~~means to~~ a circuit for ~~transmit~~ transmitting a request to a the web server, the request including the updated ~~cookies~~ cookie.

7.(Amended) The computer system of claim 3, wherein ~~the means of communication further comprising~~ the web server comprises:

~~means to~~ a circuit for ~~receive~~ receiving a request from the client computer, the request including the transmitted ~~cookies~~ cookie;

~~means to~~ a circuit for ~~return~~ returning a response to the client computer; and

~~means to~~ a circuit for ~~store~~ storing the ~~cookies~~ cookie in the unique file.

8. (Amended) The computer system of claim 6, wherein ~~the means of communication further comprising~~ the web server comprises:

~~means to~~ a circuit for ~~receive~~ receiving the request from the client computer;

~~means to~~ a circuit for ~~return~~ returning a response to the client computer; and

~~means to~~ a circuit for ~~store~~ storing the cookie ~~content~~ in the unique file.

9. (Amended) A method of administering Internet based testing on a client computer, examination content being ~~stored on~~ provided from a web server, the method comprising the steps of:

logging in a candidate who accesses a client computer with a web browser;

beginning an examination session;

retrieving and displaying the examination content from the web server and responding to the examination content; and

automatically communicating between the web browser and the web server to ~~saving~~ record a current state of the examination session of the candidate during the examination session at the predefined intervals in a unique file, the unique file being allocated to the candidate in each examination session.

10. (Amended) The method of claim 9, wherein ~~in the step of automatically saving the current state of the examination session at the predefined intervals in a unique file includes~~ the communicating step comprises the step of saving the unique file on the web server.

11. (Amended) The method of claim 10, wherein ~~in the step of automatically saving the current state of the examination session at predefined intervals in a unique file includes~~ the communicating step comprises the step of:

transmitting ~~cookies~~ a cookie between the web server and ~~the client computer~~ the web browser to save the current state of the examination of the candidate.

12. (Amended) The method of claim 10, wherein ~~in the step of automatically saving the current state of the examination session at predefined intervals in a unique file includes~~ the communicating step further comprises the steps of:

updating ~~cookies~~ the cookie on the web browser at the predefined intervals~~,~~ the updated cookie including the current state of the examination session of the candidate; and

transmitting the updated ~~cookies~~ cookie in a request from the web browser.

13. (Amended) The method of claim 12, wherein ~~in the step of automatically saving the current state of the examination session at predefined intervals in a unique file includes~~ the communicating step further comprises the steps of:

responding to the request transmitted by the client computer; and

storing the transmitted ~~cookies~~ cookie in the unique file on the web server.

14. (Amended) The method of claim 11, wherein ~~in the step of automatically saving the current state of the examination session at predefined intervals in a unique file further includes~~ the communicating step further comprises the steps of:

updating the ~~cookies~~ cookie on the web browser during the examination session at the predefined intervals, the updated cookie including the current state of the examination session of the candidate; and

transmitting a request to a the web server, the request including the updated ~~cookies~~ cookie.

15. (Amended) The method of claim 11, wherein ~~in the step of automatically saving the current state of the examination session at predefined intervals in a unique file further includes~~ the communicating step further comprises the steps of:

receiving, on the web server, a request from ~~the client computer~~ the web browser, the request including the transmitted cookies;

returning a response to ~~the client computer~~ the web browser and

storing the cookies in the unique file on the web server.

16.(Amended) The method of claim 14, wherein ~~in the step of automatically saving the current state of the examination session at predefined intervals in a unique file further includes~~ the communicating step further comprises the steps of:

receiving, on the web server, the request from ~~the client computer~~ the web browser;

returning a response to the client computer; and

storing the cookie ~~content~~ in the unique file on the web server.

17. (Amended) A user interface ~~invocable by an application program for administering a computer based exam comprising~~ for providing a computer based examination to a user on a client computer, a server providing an examination content to the client computer through a network, the user interface comprising:

~~a right frame for at least one question~~;

~~a left frame comprising:~~

~~a listing of question numbers;~~

a circuit for listing a number of a question on a first frame of a display based on an examination content, the examination content including the question being provided from a server through a network;

a circuit for displaying the question on a second frame of the display based on the examination content;

a circuit for providing a user activable first button for a calculator on the first frame, the first button enabling the calculator to be activated; and

a circuit for providing a user activable second button for a clock on the first frame to change a clock content, the second button enabling the clock to be ~~the clock being~~ adapted to either display real time, examination time elapsed or examination time remaining.

18. (Amended) Computer executable software code stored on a computer readable medium, the code for administering a computer based examination having examination

content, the code comprising:

~~code to receive a candidate specific user name and PIN;~~

code to inquire of a web server whether a candidate who accesses a computer with a web browser is allowed to access an examination content;

code to begin an ~~the~~ examination session;

code to ~~generate and transmit~~ retrieve and display ~~the~~ an examination content transmitted from ~~a remote site~~ the web server to the web browser;

code to update, on the web browser, a cookie ~~content~~ during the examination session at a predefined interval, the cookie including a current state of the examination session of the candidate;

code to transmit a request from the web browser to a the web server at the predefined interval, the request including the current state of the examination session of the candidate ~~the updated cookie content~~.

19. (Amended) Computer executable software code stored on a computer readable medium, the code for administering a computer based examination having examination content, the code comprising:

code to ~~generate~~ transmit an examination content from a web server to a web browser, a candidate accessing a computer with the web browser;

code to receive a request from ~~a client computer~~ the web browser on the web server during the examination session at a predefined interval, the request including a cookie ~~content~~ having a current state of the examination session of the candidate;

code to return a response from the web server to ~~the client computer~~ the web browser indicating the currently displayed content should not be changed; and

code to ~~store the cookie content~~ record the current state of the examination session of the candidate in a unique ~~cookie jar~~ file on the web server at the predefined interval, the unique file being allocated to the candidate in each examination session.

20. (Amended) A programmed computer for administering a computer based examination having examination content, the programmed computer comprising:

a memory having at least one region for storing computer executable program code; and

a processor for executing the program code stored in the memory, the code comprising:

~~code to receive a candidate specific user name and PIN;~~

code to inquire of a web server whether a candidate who accesses a computer with the web browser is allowed to access an examination content;

code to begin an ~~the~~ examination session;

code to update, on the web browser, a cookie ~~content~~ during the examination session at a predefined interval, the cookie including a current state of the examination session of the candidate; and

code to transmit a request from the web browser to ~~a~~ the web server at the predefined interval, the request including the current state of the examination session of the candidate ~~the updated cookie content~~.

21. (Amended) A programmed computer for administering a computer based examination having examination content, the programmed computer comprising:

a memory having at least one region for storing computer executable program

code; and

a processor for executing the program code stored in the memory, the code comprising:

code to ~~generate~~ transmit an examination content from a web server to a web browser, a candidate accessing a computer with the web browser;

code to receive a request from ~~a client computer~~ the web browser on the web server during the examination session at a predefined interval, the request including a cookie ~~content~~ having a current state of the examination session of the candidate;

code to return a response from the web server to the ~~client computer~~ web browser indicating the currently displayed content should not be changed; and

code to ~~store the cookie content~~ record the current state of the examination session of the candidate in a unique ~~cookie jar~~ file on the web server at the predefined interval, the unique file being allocated to the candidate in each examination session.

22. (Amended) A computer readable medium having computer executable software code stored thereon, the code for administering a computer based examination having an examination content comprising:

~~code to receive a candidate specific user name and PIN;~~

code to inquire of a web server whether a candidate who accesses a computer with the web browser is allowed to access an examination content;

code to begin an ~~the~~ examination session;

code to retrieve and display ~~the~~ an examination content transmitted from ~~a remote site~~ the web server to the web browser;

code to update, on the web browser, a cookie ~~content~~ during the examination

session at a predefined interval, the cookie including a current state of the examination session of the candidate; and

code to transmit a request from the web browser to a the web server at the predefined interval, the request including the current state of the examination session of the candidate ~~the updated cookie content~~.

23. (Amended) A computer readable medium having computer executable software code stored thereon, the code for administering a computer based examination having an examination content comprising:

code to ~~generate~~ transmit an examination content from a web server to a web browser, a candidate accessing a computer with the web browser;

code to receive a request from ~~a client computer~~ the web browser on the web server during the examination session at a predefined interval, the request including a cookie ~~content~~ having a current state of the examination session of the candidate;

code to return a response from the web server to the ~~client computer~~ web browser indicating the currently displayed content should not be changed; and

code to ~~store the cookie content~~ record the current state of the examination session of the candidate in a unique ~~cookie jar~~ file on the web server at the predefined interval, the unique file being allocated to the candidate in each examination session.

24. (Deleted)

25. (Amended) ~~An adaptive testing method substantially as described in the detailed description.~~ A method of providing an examination content, the method

comprising the steps of:

providing an examination content to a web browser, a candidate accessing a computer with the web browser;

administering the web browser;

evaluating an result of an examination for the candidate on the web server;

selecting a next examination content for the candidate based on the evaluation on the web sever during the examination session:

assigning to the candidate a new examination content.